

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-27 are presently active in this case. Claims 18 is amended by the present amendment. No new matter is added.

In the outstanding Office Action, the specification was objected to; Claim 18 was objected to; Claims 1, 2, 5, 8-10, 13, 16, 19 and 22-27 were rejected under 35 U.S.C. § 103(a) as anticipated by U.S. Patent No. 6,593,935 to Imaizumi et al. (herein “Imaizumi”) in view of U.S. Patent No. 6,144,763 to Ito and U.S Patent No. 5,018,008 to Asada; Claims 3 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over Imaizumi in view of Ito, Asada and U.S. Patent No. 5,740,277 to Katto; Claims 4 and 12 were rejected under 35 U.S.C. § 103(a) as unpatentable over Imaizumi in view of Ito, Asada and U.S. Patent No. 6,118,552 to Suzuki et al. (herein “Suzuki”); and Claims 6, 7, 14, 15, 17, 18, 20 and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over Imaizumi in view of Ito, Asada and U.S. Patent No. 5,990,876 to Shyu.

Regarding the objection to the specification, the specification is amended as suggested in the outstanding Office Action. Accordingly, it is respectfully requested that objection be withdrawn.

Further, regarding the objection to Claim 18, Claim 18 is amended as suggested in the outstanding Office Action. Accordingly, it is respectfully requested that objection also be withdrawn.

In addition, Applicants respectfully traverse the rejection of Claims 1, 2, 5, 8-10, 13, 16, 19 and 22-27 under 35 U.S.C. § 103(a) as anticipated by Imaizumi in view of Asada.

Independent Claim 1 is directed to a device for processing images including, *inter alia*, a memory unit configured to store encoded image data produced by a compressing/encoding

unit. The memory unit has at least one memory space assigned to store a part of the encoded image data, and the part of the encoded image data represents a plurality of color components in the encoded image data. The device also includes a distribution measurement unit configured to measure a distribution of the plurality of color components, and a memory-control unit configured to release the at least one memory space assigned to the part of the encoded image data when the distribution concentrates on the one of the plurality of color components. Independent Claims 8, 10 and 19 include similar features.

In a nonlimiting example, Applicants' Figure 1 shows a device for processing images including an image coding unit 11, an image decoding unit 12, a memory unit 13, a distribution-measurement unit 14, and a memory-control unit 15. Red/Green/Blue color (RGB) image data read by a scanner, for example, is encoded and compressed by the image coding unit 11 to produce fixed length codes, which are stored in the memory unit 13. Applicants Figure 3 shows an example of encoded image data stored in the memory unit 13 in a case in which a two pixel by two pixel block with 8 bits per pixel is processed with respect to each of the RG and B colors.

In the encoded image data, the luminance signal Y includes 16 bits, the color information Cb includes 8 bits and the color information Cr includes 8 bits. The distribution-measurement unit 14 measures the distribution of the chrominance component Cb and Cr over the entire image and checks whether the obtained distribution has a concentration within a predetermined range. For example, a check is made to determine whether the distribution concentrates on a particular composition of color components. If the distribution concentrates on a particular composition of chrominance components, it is reasonable to ascertain that the input image is a monochrome image. Thus, when it is determined that the distribution concentrates on a particular composition of chrominance components (e.g., one of the plurality of color components) then the memory-control unit releases the memory space

assigned to the color information Cb and Cr.

Applicants respectfully traverse the assertion in the outstanding Office Action that Ito discloses a memory-control unit configured to release the at least one memory space assigned to the part of the encoded image data when the distribution concentrates on the one of the plurality of color components.<sup>1</sup> Ito describes outputting a black and white image with a digital camera designed to output a color image. In particular, Ito indicates that a system controller (CPU) 18 specifies a monochrome mode to a code amount controller 36. The code amount controller 36 controls a coding/decoding section 38 to assign a target code amount of zero to the chrominance data Cr and Cb, which results in chrominance components being set to zero during the encoding of the image to produce coded outputs.<sup>2</sup> Thus, Ito converts an image into a monochrome image during the encoding process. Since such conversion is done during the encoding process, there is no part of the encoded image stored in memory that represents the plurality of color components, as in the claimed inventions. Further, since no encoded image data including a plurality of color components is stored in the memory, no action is performed to release at least one memory space assigned to the color components, as recited in the independent claims. Further, Ito only describes converting a color image into a monochrome image by voluntarily specifying a monochrome mode when it is desired to produce a monochrome image.<sup>3</sup> Thus, Ito does not teach or suggest producing a monochrome image based on a distribution concentration measured by a distribution measurement unit on the plurality of color components as recited in the independent claims. Further, Applicants respectfully submit that none of the other references cited in the outstanding Office Action teach or suggest that claimed feature lacking in the disclosure of Ito. Accordingly, Applicants respectfully submit that the disclosures of Ito, Imaizumi and Asada, either separately or in combination, do not teach or suggest, a “memory-control unit configured to release the at least

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<sup>1</sup> Office Action at page 4, lines 5-8.

one memory space assigned to the part of the encoded image data ... when the distribution concentrates on the one of the plurality of color components," as recited in the independent claims.

Further, Applicants respectfully traverse the assertion in the outstanding Office Action that Asada discloses a distribution-measurement unit configured to record data indicative of one of the plurality of color components in said memory unit.<sup>4</sup> Applicants respectfully submit that Asada only describes counting the number of pixels having a designated "memory color."<sup>5</sup> Thus, Asada does not teach or suggest a distribution measurement unit configured to measure a **distribution** of the plurality of color components that is capable of identifying when the distribution concentrates on one of the color components, as in the claimed inventions. Further, Applicants respectfully submit that Imaizumi and Ito also do not teach or suggest that claimed feature lacking in the disclosure of Asada. Accordingly, Applicants respectfully submit that the combined disclosure of Imaizumi, Ito and Asada also fails to teach or suggest releasing "at least one memory space assigned to the part of the encoded image ... when the distribution concentrates on the one of the plurality of color components," as recited in the independent claims.

Accordingly, Applicants respectfully submit that independent Claims 1, 8, 10 and 19, and claims depending therefrom, patentably define over Imaizumi, Ito and Asada, whether taken individually or in combination.

In addition, Applicants respectfully traverse the rejections of Claims 3, 4, 6, 7, 11, 12, 14, 15, 17, 18, 20 and 21 as unpatentable over Imaizumi in view of Ito, Asada and Katto or Suzuki or Shyu.

Claims 3, 4, 6, 7, 11, 12, 14, 15, 17, 18, 20 and 21 depend from independent Claims 1,

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<sup>2</sup> Ito, col. 7, lines 12-19.

<sup>3</sup> Ito at col. 7, lines 12-14.

<sup>4</sup> Office Action at page 4, lines 9-10.

<sup>5</sup> Asada at col. 8, lines 8-16.

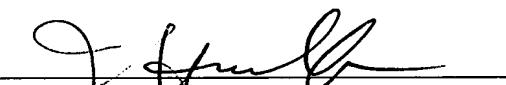
8, 10 or 19, which as discussed above are believed to patentably define over Imaizumi, Ito and Asada. Further, Applicants respectfully submit that none of Katto, Suzuki or Shyu teach or suggest the claimed features lacking in the disclosures of Imaizumi, Ito and Asada, as described above. Accordingly, it is respectfully requested those rejections be withdrawn.

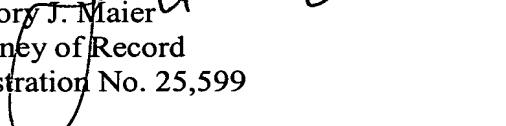
Accordingly, it is respectfully submitted that independent Claims 1, 8, 10 and 19, and claims depending therefrom, are allowable.

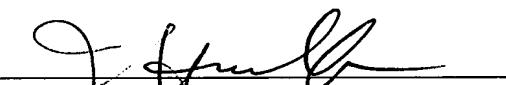
Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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